

CLAIMS

What is claimed is:

- 1 1. A servo write head for magnetic tape, the head comprising:
2 a substantially planar head surface; and
3 a leading edge, the leading edge being disposed adjacent to the head
4 surface such that the tape contacts the leading edge before passing over the
5 head surface, the leading edge being rounded so as to form an air bearing
6 between the head surface and the tape.

- 1 2. The head as set forth in claim 1, wherein the rounding of the
2 leading edge is accomplished through a selected one or more of blending,
3 grinding, machining, and faceting to the head surface.

- 1 3. The head as set forth in claim 1, comprising a trailing edge, the
2 trailing edge being disposed adjacent to the head surface such that the tape
3 passes over the trailing edge after passing over the head surface, the trailing
4 edge being rounded.

- 1 4. The head as set forth in claim 3, wherein the rounding of the
2 trailing edge is accomplished through a selected one or more of blending,
3 grinding, machining, and faceting from the head surface.

- 1 5. A servo write head for magnetic tape, the head comprising:
2 an upper ferrite wafer having a spacer; and
3 a non-magnetic material in the spacer to form a ferrite-nonmagnetic-
4 ferrite arrangement for writing a portion of a servo pattern to the tape.

1 6. The head as set forth in claim 5, wherein a plurality of the
2 heads are formed through a batch processing of the upper ferrite wafer.

1 7. The head as set forth in claim 5, comprising a layer of magnetic
2 material having at least one magnetic gap over the non-magnetic material to
3 form the magnetic pattern for writing the servo pattern to the tape.

1 8. The head as set forth in claim 5, comprising a lower ferrite
2 wafer mated to the upper ferrite wafer to complete a magnetic circuit around
3 the gap.

1 9. The head as set forth in claim 8, comprising an inductive
2 winding, wherein the head has a channel through which the inductive winding
3 passes.

1 10. The head as set forth in claim 8, wherein a plurality of the
2 heads are formed through a batch processing of the upper and lower ferrite
3 wafers.

1 11. The head as set forth in claim 5, wherein a non-magnetic space
2 is formed in the upper ferrite wafer proximate to the gap to enhance the
3 magnetic circuit.

1 12. The head as set forth in claim 5, wherein the upper ferrite wafer
2 has a substantially planar head surface; and
3 a leading edge, the leading edge being disposed adjacent to the head
4 surface such that the tape contacts the leading edge before passing over the

5 head surface, the leading edge being rounded so as to form an air bearing
6 between the head surface and the tape.

1 13. The head as set forth in claim 5, comprising an inductive
2 winding, wherein the inductive winding passes around a portion of the upper
3 ferrite wafer.

1 14. The head as set forth in claim 5, wherein the upper ferrite wafer
2 forms a magnetic shunt around the gap.

1 15. A servo write method for magnetic tape, the method comprising
2 the steps of:

3 passing the tape over a substantially planar head surface having a
4 leading edge, the leading edge being disposed adjacent to the head surface
5 such that the tape contacts the leading edge before passing over the head
6 surface, the leading edge being rounded so as to form an air bearing between
7 the head surface and the tape; and

8 using the head to write servo position code onto the tape.

1 16. The method as set forth in claim 15, wherein the rounding of
2 the leading edge is accomplished through a selected one or more of blending,
3 grinding, machining, and faceting to the head surface.

1 17. The method as set forth in claim 15, comprising the step of
2 passing the tape over a trailing edge, the trailing edge being disposed adjacent
3 to the head surface such that the tape passes over the trailing edge prior to
4 passing over the head surface, the trailing edge being rounded.

1 18. The method as set forth in claim 17, wherein the rounding of
2 the trailing edge is accomplished through a selected one or more of blending,
3 grinding, machining, and faceting from the head surface.

1 19. A method of making a servo write head for magnetic tape, the
2 method comprising the steps of:
3 forming a spacer in an upper ferrite wafer of the head; and
4 placing a non-magnetic material in the spacer to form a ferrite-non-
5 magnetic-ferrite arrangement for writing a portion of a servo pattern to the
6 tape.

1 20. The method as set forth in claim 19, wherein a plurality of the
2 heads are formed through a batch processing of the upper ferrite wafer.

1 21. The head as set forth in claim 19, comprising the step of
2 forming a layer of magnetic material having at least one magnetic gap over
3 the non-magnetic material to form the magnetic pattern for writing the servo
4 pattern.

1 22. The method as set forth in claim 19, comprising the step of
2 mating a lower ferrite wafer to the upper ferrite wafer to complete a magnetic
3 circuit around the gap.

1 23. The method as set forth in claim 22, comprising the step of
2 adding an inductive winding, wherein the head has a channel through which
3 the inductive winding passes.

1 24. The method as set forth in claim 22, comprising the step of
2 forming a plurality of the heads through batch processing of the upper and
3 lower ferrite wafers.

1 25. The method as set forth in claim 19, comprising the step of
2 forming a non-magnetic space in the upper ferrite wafer proximate to the gap
3 to enhance the magnetic circuit.

1 26. The method as set forth in claim 19, comprising the step of
2 passing an inductive winding around a portion of the upper ferrite wafer.

1 27. The method as set forth in claim 19, wherein the upper ferrite
2 wafer forms a magnetic shunt around the gap.

1 28. The method as set forth in claim 19, wherein the upper ferrite
2 wafer has a substantially planar head surface and a leading edge, the leading
3 edge being disposed adjacent to the head surface such that the tape contacts
4 the leading edge before passing over the head surface, the method comprising
5 the step of rounding the leading edge so as to form an air bearing between the
6 head surface and the tape.